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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,908	11/03/2003	Stefan Raspl	DE920010103US1	7758

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EXAMINER

CHEN, TE Y

ART UNIT PAPER NUMBER

2161

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/700,908	<b>Applicant(s)</b> RASPL, STEFAN	
	<b>Examiner</b> Susan Y. Chen	<b>Art Unit</b> 2161	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/03/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

Claims 1-26 are presented for examination.

### ***Specification***

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code [e.g., Paragraph 13]. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01. Furthermore, the word "Euclids" is mistyped [e.g., paragraph 13 and other place], In addition, the instant disclosure seems like software per se without any hardware to perform the claimed clustering, hence, the specification is objected.

Appropriate correction is required and no new matter should be added.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed computer program product and system including physical median as well as respective means must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

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prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claim 14 is objected to because of the following informalities:

As to claim 14, there is a typing error, the word "Euclids" should be changed to "Euclidean".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-26 are rejected under 35 U.S.C. 101 because the claimed invention directs to non-statutory subject matter.

In the present case, the method claims (1-14) merely clustering a set of records per a key, it seems do not producing a concrete, useful and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. In addition, the program product claims (15-20) absent an explicit and deliberate definition in the specification, which permits the functionality of the code to be realized, thus, it directs to software per se and is non-statutory for at least this reason. Furthermore, the system claims (21-26) have no hardware elements to establish it as a machine under 35 U.S.C. 101. It doesn't appear to recite "a physical or logical relationship among data elements, much less recite a proper data structure in combination with the necessary hardware to enable it to act as a computer component to be a manufacture under 35 U.S.C. 101. Therefore, based on the discussion above the instant invention does not fall within one of the four statutory categories.

To expedite a complete examination of the instant application the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-10 and 15-26, are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. publication No. 2002/0052692 issued to FAHY.

Claim 1:

FAHY discloses a method of clustering a set of records, each of the records having attribute values for a set of attributes [e.g., the unit 200, Fig. 3 and associated texts starting at paragraph 0045 at seq.], the method comprising:

for each attribute of the set of attributes, determining a characteristic value for said each attribute, based on attribute values of said each attribute [e.g., the steps: 211-214, Fig. 3];

for each attribute value, determining a deviation from the characteristic value of said each attribute [e.g., the use of K-mean Euclidean distance technique at Paragraph 0047];

for each record, sorting the set of attributes based on deviations of the attribute values, to provide a key [paragraph 0064-0065, Units: 224, 226, Fig. 3]; and

clustering the set of records based on the key [Fig. 4 and associated text starting at paragraph 0072 at seq.].

Claim 2:

except the limitations recited in claim 1, FAHY further discloses the method comprising calculating a mean value of the attribute values of said each attribute as the characteristic value [e.g., paragraph 0052].

Claims 3:

except the limitations recited in claim 1, FAHY further discloses a median value of the attribute values of each attribute is determined as the characteristic value [e.g., paragraphs: 0057 & 0060].

Claims 4:

except the limitations recited in claim 1, FAHY further discloses determining the deviation comprises calculating a difference between each said attribute value and the characteristic value of each said attribute [e.g., Abstract, lines 9-16].

Claim 5:

except the limitations recited in claim 1, FAHY further discloses determining the deviation comprises calculating a difference between said each said attribute value and the characteristic value of the corresponding attribute, and dividing the difference by the

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characteristic value of said each said attribute [e.g., the "ration" column of Fig. 8, paragraph 0076].

Claim 6:

except the limitations recited in claim 1, FAHY further discloses sorting the set of attributes comprises using absolute values of the deviations of the attribute values as a sorting criterion [e.g., paragraph 0026 & 0028].

Claim 7:

except the limitations recited in claim 1, FAHY further discloses that a first record of the set of records contains a first key and a second record of the set of records contains a second key; and further comprising placing the first key and the second key into a single cluster if the first key and the second key have identical sub-sequences of a first length [e.g., Fig. 8 and associated texts].

Claim 8:

except the limitations recited in claim 1, FAHY further discloses that first record of the set of records contains a first key and a second record of the set of records contains a second key; and further comprising placing the first key and the second key into a single cluster if the first key and the second key have identical sub-sequences of absolute values of the deviations [e.g., Fig. 9 and associated texts].



Claim 9:

except the limitations recited in claim 1, FAHY further discloses that a first record of the set of records contains a first key that has a first sub-sequence, and a second record has a second sub-sequence contains a second key; and further comprising placing the first key and the second key into a single cluster if the first and second sub-sequences comprise the same set of attributes [e.g., paragraph: the single linkage agglomeration technique at 0059].

Claim 10:

except the limitations recited in claim 9, FAHY further discloses that the first and second sub-sequences comprise the same set of attributes irrespective of a sign of the deviations of the attribute values [e.g., paragraph: 0028, Note the absolute value of an attribute is irrespective of a sing].

Claim 15:

This claim incorporates substantially similar subject matter as claim 1 in form of computer program product, hence is rejected along the same rational.

Claim 16:

This claim incorporates substantially similar subject matter as claim 2 in form of computer program product, hence is rejected along the same rational.

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Claim 17:

This claim incorporates substantially similar subject matter as claim 3 in form of computer program product, hence is rejected along the same rational.

Claim 18:

This claim incorporates substantially similar subject matter as claim 4 in form of computer program product, hence is rejected along the same rational.

Claim 19:

This claim incorporates substantially similar subject matter as claim 5 in form of computer program product, hence is rejected along the same rational.

Claim 20:

This claim incorporates substantially similar subject matter as claim 6 in form of computer program product, hence is rejected along the same rational.

As to claims 21-26, these claims recite similar subject matter as claims 1-6 and 15-20 in form of an abstract computer system, hence are rejected along the same rational.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-14, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. publication No. 2002/0052692 issued to FAHY, in view of U.S. Patent No. 6,468,476 issued to Friend et al. (hereinafter referred as Friend).

Claim 11:

FAHY does not expressly disclose that identifying a cluster having a smallest number of records; and for each record of the identified cluster searching another cluster having records with best matching keys.

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However, Friend discloses a method identifying a cluster having a smallest number of records; and for each record of the identified cluster searching another cluster having records with best matching keys [e.g., Col. 28, lines 35 – col. 29, line 45].

FAHY and Friend are both in the same endeavor to optimize the clustering of set of records via Euclidean distance statistic analysis [e.g., FAHY: 0054, Friend: Col. 14, line 63-67], therefore, with the teachings of FAHY and Friend in fount of him/her, it would have been obvious for an ordinary skilled person in the art at the time the invention was made, to modify FAHY's method with the well-known technique as taught by Friend to identify a cluster having a smallest number of records; and for each record of the identified cluster searching another cluster having records with best matching keys, because by doing so, the best scaling set for controlling of the artifact of a pattern will be derived such that it facilitates a faster and focus pattern searching [e.g., Friend: col. 29, lines 5-45].

Claim 12:

except the limitations recited in claim 11, the combined invention of FAHY and Friend further discloses reducing a length of the first sub-sequence and a length of the second sub-sequence in order to find a best match [e.g., FAHY: paragraph 0010; Friend: col. 24, lines 1-31].

Claim 13:

except the limitations recited in claim 11, the combined invention of FAHY and Friend further discloses using a distance measure to find another cluster for a record of the identified cluster [e.g., FAHY: Abstract, lines 9-16; Friend: col. 24, lines 1-31].

Claim 14:

except the limitations recited in claim 11, FAHY further discloses the distance measure comprises a Euclidean distance [e.g., FAHY: 0054, Friend: Col. 14, line 63-67].

***Conclusion***

To expedite the process of re-examination, the examiner requests that all future correspondences in regard to overcoming prior art rejections or other issues (e.g. 35 U.S.C. 112) set forth by the Examiner prior to the office action, that applicant should provide and link to the most specific page and line numbers of the disclosure where best support is found (see 35 U.S.C. 132).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Watari et al. (U.S. Patent No. 4,601,054) which disclose a pattern recognition apparatus for recognizing spoken words.

Shojima et al. (U.S. Patent No. 4,653,107) which disclose an on-line pattern recognition system that recognizes handwritten pattern.

Leung et al. (U.S. Patent No. 6,397,166) which disclose a system with method to perform model-based clustering and group multiple data points.

Killer et al. (U.S. Patent No. 6,829,561) which disclose a method for determining the quality of data clustering.

Yu et al. (U.S. Patent No. 6,871,201) which disclose a method for constructing a space-splitting decision tree.

### ***Point of Contact***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Y. Chen whose telephone number is 571-272-4016. The examiner can normally be reached on Monday - Friday from 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Susan Y Chen  
Examiner  
Art Unit 2161

April 14, 2006

A handwritten signature in cursive script, appearing to read "Susan Chen".